12AZ7

HIGH-MU TWIN TRIODE

9-Pin Miniature Type

TENTATIVE DATA

RCA-12AZ7 is a general-purpose high-mu twin triode of the 9-pin miniature type intended for a wide variety of applications in vhf television receivers including its use as a cathode-drive amplifier and frequency converter.

This tube has separate pin terminals for each cathode to provide flexibility of circuit arrangement, and a mid-tapped heater to permit operation from a 12.6-volt/0.225-ampere or 6.3-volt/0.45-ampere supply.

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:			
Heater arrangement	*Series*	*Parallel*	
Voltage (AC or DC)	12.6	6.3	volts
Current	0.225	0.450	amp
Direct Interelectrode Capacitances (Approx.):	*Without External Shield*	*With External Shield*°	
Grid-Drive Operation:			
Grid to plate (Each unit)	1.9	1.9	μμf
Grid to heater and cathode (Each unit)	3.1	3.2	μμf
Plate to heater and cathode (Unit No.1)	0.5	1.3	μμf
Plate to heater and cathode (Unit No.2)	0.4	1.6	μμf
Heater to cathode (Each unit)	3.8	4	μμf
Cathode-Drive Operation:			
Plate to cathode (Each unit)	0.24	0.23	μμf
Cathode to grid and heater (Each unit)	6.9	7	μμf
Plate to grid and heater (Unit No.1)	2	2.8	μμf
Plate to grid and heater (Unit No.2)	2	3.2	μμf

Characteristics, Class A$_1$ Amplifier (Each Unit):

Plate-Supply Voltage	100	250	volts
Cathode-Bias Resistor	270	200	ohms
Amplification Factor	60	60	
Plate Resistance (Approx.)	15000	10900	ohms
Transconductance	4000	5500	μmhos
Plate Current	3.7	10	ma
Grid Voltage (Approx.) for plate current of 10 μa	−5	−12	volts

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)

AMPLIFIER - Class A$_1$

Values are for Each Unit

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	300 max.	volts
GRID VOLTAGE:		
Negative bias value	50 max.	volts
PLATE DISSIPATION	2.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200● max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.25 max.	megohm
For cathode-bias operation	1 max.	megohm

° With external shield JETEC No.315 connected to cathode of unit under test.

● DC component must not exceed 100 volts.

OPERATING CONSIDERATIONS

The *maximum ratings* in the tabulated data for the 12AZ7 are working design-center maximums established according to the standard design-center system of rating electron tubes. Tubes so rated will give satisfactory performance in equipment designed so that these maximum ratings will not be exceeded when the equipment is operated from ac or dc power-line supplies whose normal voltage, including normal variations, falls within ± 10 per cent of line-center voltage value of 117 volts.

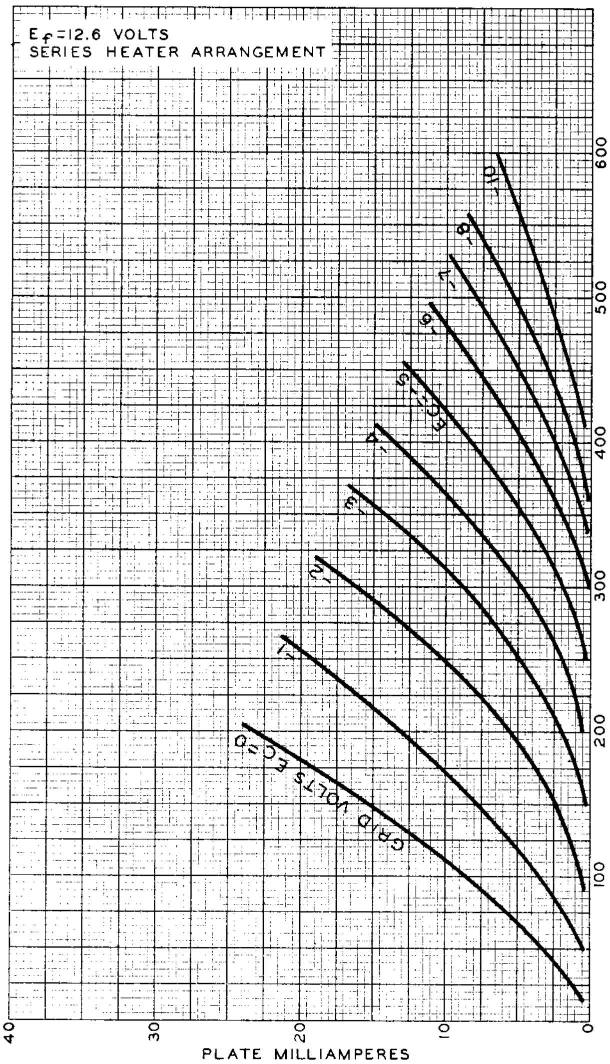


Fig.1 - Average Plate Characteristics of Type 12AZ7.

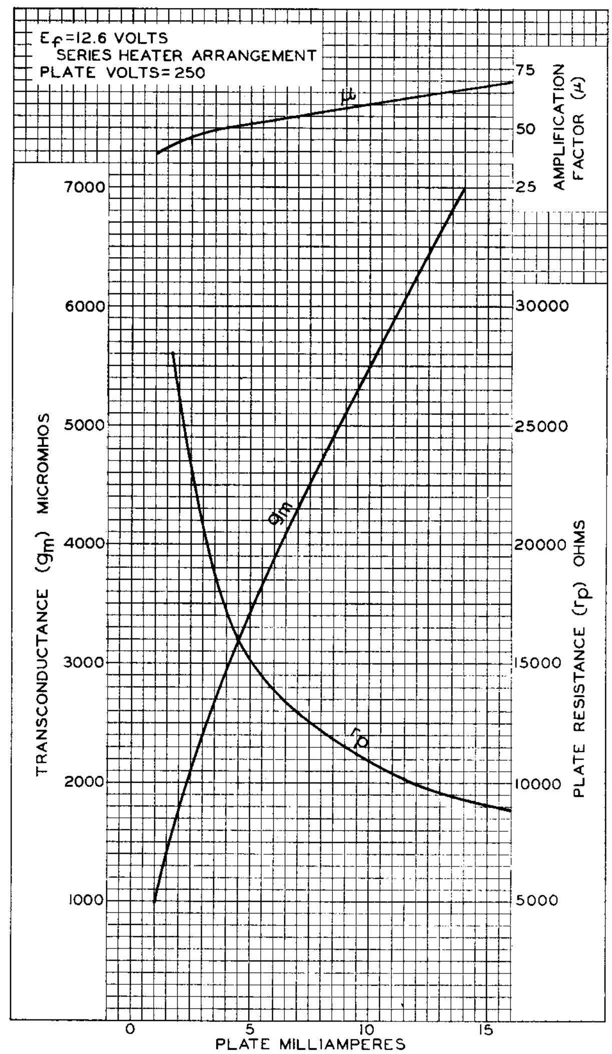
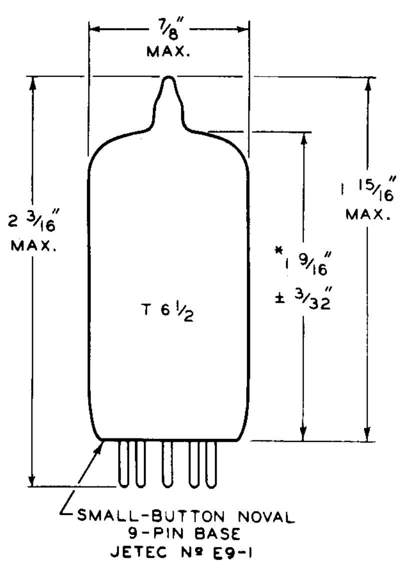


Fig.2 - Average Characteristics of Type 12AZ7.

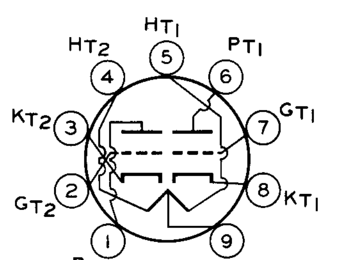
DIMENSIONAL OUTLINE



* MEASURED FROM BASE SEAT TO BULB-TOP LINE AS DETERMINED BY RING GAUGE OF 7/16" I.D.

SOCKET CONNECTIONS

Bottom View



9A

PIN 1: PLATE OF TRIODE UNIT No.2
PIN 2: GRID OF TRIODE UNIT No.2
PIN 3: CATHODE OF TRIODE UNIT No.2
PINS 4 & 9: HEATER OF TRIODE UNIT No.2
PINS 5 & 9: HEATER OF TRIODE UNIT No.1
PIN 6: PLATE OF TRIODE UNIT No.1
PIN 7: GRID OF TRIODE UNIT No.1
PIN 8: CATHODE OF TRIODE UNIT No.1
PIN 9: HEATER MID-TAP